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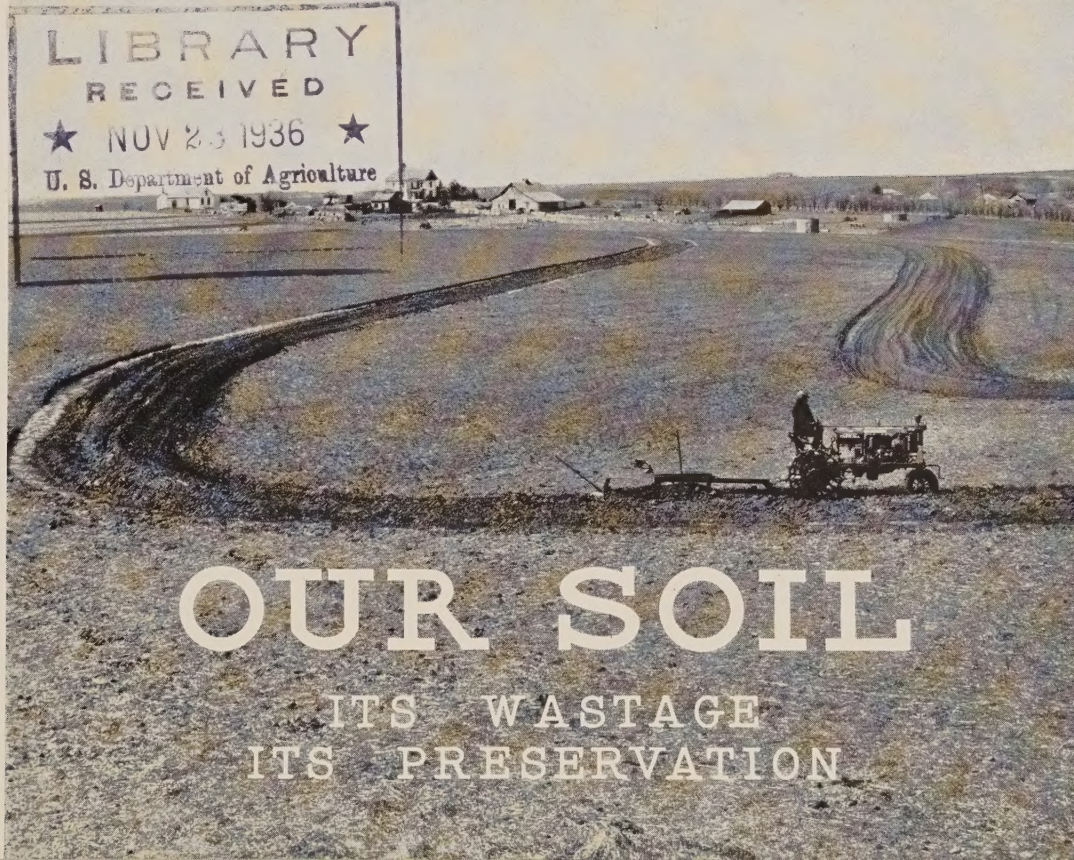
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U. S. Department of Agriculture
Soil Conservation Service

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CENTRAL
GREAT
PLAINS
AREA

REGION NO. 7
(Nebraska-Kansas-Oklahoma)
SALINA, KANSAS



OUR SOIL

ITS WASTAGE
ITS PRESERVATION

NATURE BUILT THE SOIL. The white man found the prairies and woodlands of the Central Great Plains an inland empire of lush grass and fine trees, a home for game, a land of agricultural opportunity. The topsoil was deep and rich. It had lain there for centuries, slowly accumulating under a protective cover of vegetation which bound the soil as cement binds the gravel in concrete. There had been little loss of soil by erosion. Some was carried away in drainage waters but this was more than replaced by soil built from beneath. When undisturbed, Nature requires 400 to 1,000 years to build 1 inch of topsoil.



NATIVE COVER. In this pasture, which has been protected from burning and has not been overgrazed, grasses flourish that once were native to much of the Central Great Plains. The grasses are, primarily, the big and little bluestems.

CATTLE. The native grasses were the major resource of the early cattle industry of the Great Plains. Longhorns, brought in from Texas by trail drivers, grazed the grass close. It thinned. Its protective cover impaired, the soil began to wash.





THE PLOW. But farmers soon displaced the cattlemen. Cramped for space in the East, they came West, and drove the cattle before them. They broke the sod for corn, cotton, and wheat, and cleared the timbered land. Bared, save for the part-time cover provided by cultivated crops, the soil lay exposed to the forces of erosion.

FIRE. From the beginning cattlemen burned the ranges to make the grass "green up early" in spring. In so doing, they prevented reseeding and weakened the sod. Woodlands felt the flames each year. Brush and young trees, which provided cover and food for wildlife, were consumed. Fence rows and stubble-fields were regularly burned in the belief that "clean farmers are good farmers."





TILLAGE. In cultivating the land no thought was given to protecting the newly exposed soil from washing. Rows were laid out in straight lines up and down the slopes. After each harvest, fields were without protection. Much of the rain no longer soaked into the soil, and water in flowing over the surface removed thin sheets of topsoil.

GULLIES. Erosion surveys reveal that 50 million acres of land in the United States have been ruined by erosion. Other millions are approaching impoverishment. Gullies are an infallible sign of advanced erosion.





WIND EROSION. When the plant cover is removed from a soil it may, in drier areas, become prey to wind erosion. Baring of soils to the lash of the wind is responsible for the dust storms which recently have swept over parts of the Great Plains.

FLOODS. When water runs rapidly from a slope it causes severe erosion of the soil. But this is not the sum-total of damage. Rapid run-off of water contributes to destructive floods. The soil is the greatest of water reservoirs; when this reservoir is rendered inefficient by the removal of plant cover, floods become more frequent and more destructive.





TOPSOIL AND HOMES. The wealth of centuries is stored in the top 12 inches of soil. Once this wealth is dissipated by wind and water, torn by erosion, farms are abandoned. Fallen buildings are reminders of a more prosperous time.

CONSERVATION. The Soil Conservation Service of the United States Department of Agriculture demonstrates measures of defense against erosion by wind and water. Demonstration areas, each covering from 25,000 to 150,000 acres, have been established in more than 40 States. There are a number of these demonstrations in the Central Great Plains. It is their purpose to show how soil losses may be averted by use of cover crops, adjustments in crop rotations, changes in tillage practices, terracing, strip cropping, contour farming, contour furrowing in pastures, stabilization of gullies, by the retirement of badly eroding land to trees or grass, and by other measures found practicable in experiment-station tests and in the experiences of farmers. The illustrations which follow depict the measures of defense employed against erosion in these demonstration areas.



COVER CROPS. Cover crops in the rotation hold the soil. While the soil is covered, erosion losses are held to a minimum. When cover crops are plowed under for green manuring purposes, the organic matter added to the soil improves its water-holding capacity. For erosion control, land should, winter and summer, be protected either by a growing crop or by a residue from the crop previously grown.

TERRACING. On cultivated land Nature is not permitted to apply a protective poultice of vegetation, and artificial methods must be employed to stop the run-off of water and the loss of soil. Terracing is one of the measures used on cultivated land of medium slope. Terraces are safety valves. They let water off the land slowly, permitting it to sink into the soil, and thus lessening erosion losses.





CONTOUR FARMING. In connection with terraces, plowing, planting, and cultivating are done on the contour. Thus the water is held not only by the terraces, but by each contour furrow and crop row. Rows follow as nearly as possible a horizontal line across a slope.

STRIP CROPPING. Strip cropping is an innovation that is proving popular. It is the practice of sowing close-growing crops in strips which alternate with strips of clean-cultivated crops. Soil picked up by rain water as it flows across the strip of clean-cultivated crop is filtered out by the strip of close-growing crop. On gentle slopes the practice eliminates the need for terracing.





CONTOUR FURROWS. Contour furrowing is the application of contour farming to pastures. Furrows round the slope on a horizontal line and catch the water and hold it. More water is absorbed in the soil and the growth of grass is stimulated, while at the same time, stopping the flow of water checks erosion.

REDEDICATED LANDS. Badly worn lands may be saved for further use by planting grass, vines, shrubs, and trees. Restoration of the grassland or forest cover rededicates the land to eventual use for grazing, timber production, or wildlife covert, and removes submarginal land from cultivation. Here CCC boys are heeling in tree stock preparatory to field planting.





DAM PLACEMENT. Where erosion has progressed so far that vegetative measures alone will not control gully washing, dams are built across gullies at intervals to check the flow of water and reduce its cutting force until vegetation is established strongly enough to hold the soil.

AN INEXPENSIVE DAM. Dams built of brush impede the flow of water sufficiently so that vegetation may become established. This type of dam is inexpensive and effective if the water is diverted from the gully head before the gully is planted.





CONSERVING WATER. Conservation of water, as well as conservation of the soil, is involved in the Soil Conservation Service's demonstration program. Properly constructed ponds provide permanent storage of water for livestock.

CENTRAL GREAT PLAINS DEMONSTRATION AREAS

Plum Creek, Albion, Nebr.

Box Elder Creek, Ralston, Nebr.

Syracuse Area, Syracuse, Nebr.

Limestone Creek, Mankato, Kans.

Elm Creek, Iola, Kans.

West Tauy Creek, Ottawa, Kans.

Stillwater Creek, Stillwater, Okla.

Pecan Creek, Muskogee, Okla.

Elk Creek, Elk City, Okla.

Camp Creek, Seiling, Okla.

Tulip and Henry House Creeks, Ardmore, Okla.

Little Washita Creek, Chickasha, Okla.

Cow Creek, Duncan, Okla.

Taloka Creek, Stigler, Okla.

Pryor Creek, Pryor, Okla.

